CBS NEWS - STS-2 LAUNCH (11-12-1981)

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From Thursday, November 12th 1981 CBS NEWS Coverage of the launch of STS-2, the 2nd Space Shuttle mission, Launch at 10:09:59 A.M E.T

STS-2 CREW:
Commander: Joe Engle
Pilot: Dick Truly

- Launched at 10:09:59 A.M E.T

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heart thought time once again in launch control leo krupp and astronaut bonnie dunbar what do you make of this it's said to be a slight delay and not very serious but any time that clock doesn't resume the countdown as we expect i always begin to think uh oh perhaps here we go again with another scrub what do you think i don't think it's an orbiter problem i think that they're looking at range safety perhaps a signal carrier to make sure they have two i don't know that we've talked about range safety before but one of the aspects of guaranteeing safety to the crew and to uh people in the area should we have a problem is that we need to signal the crew as if they need to eject and if the vehicle is possibly out of control that we can destroy it and that's what range safety is really all about so they're verifying that those carriers signals are all correct but leo i realize we're well ahead of ourselves in the sense that there is no particularly serious problem that we know about other than the clock has not started to run that they want to check this range control safety but bonnie dunbar just said something about possibly destroying the spacecraft it's something we don't often talk about but under a worse case scenario the spacecraft might have to be destroyed but the astronauts have the capability of getting out of there before that would happen do they not well there is a period from liftoff to 25 seconds where there's probably not a satisfactory escape envelope but after that if the vehicle should deviate from its trajectory where it becomes a hazard to the local population then the rain safety as soon as the vehicle gets out of this trajectory the rain safety will light a light in the cockpit telling the crew that they have a rain safety arm situation and the vehicle is going to be detonated after a certain time period and the crew then has the option of either doing a fast separation which means they could immediately separate the external tank and the solid rocket boosters or they could eject now we're told that

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or they could eject now we're told that uh the voice of launch control will be up in about 10 seconds and right now we have a slight delay with t minus nine and holding let's listen to what launch control is launch control at t minus nine minutes and holding launch director george page has checked on a number of problems which had come up during the countdown to determine that there are no constraints at the present time he has spoken to the launch crew and says let's take our time it's been a hard one watch all your data but we're going to do it right uh he has uh spoken to the uh the crew and he's uh to joe engel and to dick truly and said we're going to give you a good one we're in the process now of the test conductor going over the whole criteria with the launch team to let them know what points holds can be called and what the proper procedure is to call that hole director george page has told the launch team to take their time and do it right we're standing by now to get word of the point at which we will be picking up at the t-minus nine minutes point this is shuttle launch control well the tension grows in uh launch control as at the t minus nine and holding mark they continue to hold no indication of uh how serious the problem uh may be they did make an effort there to reassure both the astronauts of everyone working in launch control and yes those of you in the listening and watching audience that things continue to look overall pretty good as was being explained earlier by my helpers here leo krupp and astronaut bonnie dunbar that the indication is that the problem has something to do with the the range safety that is the safety in the immediate area of launch pad 39a more about that in a few moments

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39a more about that in a few moments but right now i must say that our cbs news coverage of the launch of space shuttle columbia will continue after this pause for station identification [Applause] the cbs news special report continues space shuttle two here again is dan rather attention on the launch pad at the kennedy space center in florida isn't there always tension just before a launch but special tension at this moment because the clock has stopped t minus nine and holding that if everything had been going exactly according to plan that clock would already be running it isn't running partly because of a difficulty on the safety range in the immediate area of the launch pad a voice of launch control will be up in a few seconds again let's take a listen this is shuttle launch control at t-minus nine minutes and holding launch director george page has just ordered that the clock will be picked up at one minute after 10 eastern standard time this morning we have just had a check of the various major managers for this morning's launch norm carlson has conducted that check and all of the managers that said they are ready to pick up at the proper time [Music] the launch director george page has just asked the slate the ofp launch manager if he is go and d clayton has said he is go for launch we're about two minutes away from picking up the countdown at the t-minus nine minute point which would result in a launch at 10 10 a.m this morning this is shuttle launch control caution the byword as george page uh

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caution the byword as george page uh re-emphasizing what he said a few minutes ago quote let's take our time it's been a hard one let's do it right quote unquote from george page who's in charge of the launch that's what he told the astronauts who were strapped into the cockpit of the orbiter waiting and eager to get out there having had their flight scrubbed last week as you heard the indication now is the clock at t minus nine and holding will be resumed the running of the clock will start again at just after 10 o'clock eastern time just after the hour coming up and then the countdown will resume from this uh t minus nine point hopefully right on down through launch so uh leo krupp and bonnie dunbar uh it doesn't look like whatever the problem was with the rain safety officer that it was a very uh serious problem in that every indication is that they will resume that clock start it running about two minutes from now i do want to say to our audience that once we get very close to launch time and in the launch period we don't intend to say a whole lot we intend to let the the sound and pictures speak for themselves we do want to prepare for prepare you for what you will be seeing because on a good weather day like today you should be able to see quite a lot but first let's listen again to launch control this is shuttle launch control at t minus nine minutes and holding just 15 seconds away from picking up the clock at the t minus nine minute point all of the major managers have indicated they are ready to go and we are at t minus nine minutes and counting the launch sequence are now being controlled by the ground launch sequencer from now up to the t minus 31 second point when they'll switch to the onboard redundant set launch sequencer the ground line sequencer is part of the launch processing system and operates by relaying commands to the orbiter's onboard computers which then reports back to the launch processing system that the commands have been executed and

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that the commands have been executed and the clock primary job of the computers is to check that all of the launch commit criteria are being met such as propellant loads temperatures pressures and other measurements the chase aircraft have been launched from patrick air force base to take part in the activities of this morning's launch t-minus 8 minutes 10 seconds and counting [Music] well good news as the clock starts out of that t-minus 9 and holding pattern that had been in for quite a few minutes and the clock is now running again toward a launch now briefly this is what you're going to see as we get closer down to launch time you can see in this live picture from launch pad 39a the orbiter on the back of the external fuel tank with the solid fuel rockets to either side uh poised for the launch if there is no further hold and no further hold is planned we've been through all of the planned holes now that if all goes well everybody here with their fingers crossed hoping that it does the clock will continue to roll right down to launch time now these are the things to look for at launch just at the moment the access arm which has been right up against the orbiter you can see just to the left center of your screen you see the access arm which is up against the orbiter will be in the process of being pulled back now that's the scene from inside the access arm area the hatch is closed now the access arm begins to pull away what you see up there is roughly what the astronauts are seeing from their cockpit you see how far they can see out into the distance the access arm pulling slowly away in case of any emergency it could go back up to the patch and help get the astronauts out but the clock is rolling down toward launch 637 636 the access arm

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636 the access arm moved away now from the orbiter this is uh a high shot looking down that excess arm you can see how it moves to its left to go up against the orbiter moving now to its right away from the arbiter and now the two astronauts alone in the orbiter the access arm pulled away from the side of their spaceship as the clock moves down to the six-minute rolling mark and we want to show you very briefly using our model what to look for as we get down close to launch the orbiter itself the two solid rocket boosters the large external fuel tank liquid hydrogen and oxygen at launch you will see the engines of the orbiter itself they'll be cranked up the solid rocket boosters will crank up once they crank up and get going there's no turning back from that point on now once launch is affected watch and you should be able to see it watch the spacecraft will turn shortly after launch you should be able to see that you also may be able to see the two solid rocket boosters fall away leaving the orbiter and the external fuel tank going on out towards space you should be able to see that uh shortly after launch as of the moment we are just about five minutes away uh from launch with the clock rolling on down a slight uh delay in that they had hoped to get to the launch at at or about at about 10 o'clock but uh george page the launch director said let's take our time let's get it right he held at the t-9 mark for a little longer than had been anticipated but now the clock is running down once again now the auxiliary power units have started in the spacecraft as the clock gets down to four and a

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as the clock gets down to four and a half minutes and running the auxiliary power units those are the units in which uh trouble developed last week causing a two-day scrub uh oil filter and lube oil difficulties and let's pick up the voice of and the chase planes have gone up now and this is a view of the chase planes uh which will be viewing the launch as it goes and also giving us some photographs of the launch itself let's pick up the voice of launch control for a moment [Applause] t minus four minutes we have begun nitrogen purge of the main engines on the orbiter t minus 3 minutes 50 seconds and counting [Applause] t minus 3 minutes 45 seconds the yellow bond speed brake and rudder are being moved through a pre-programmed pattern to assure that they'll be ready to be used in flight little exhaust from the apu is coming out the tail of the orbiter indicating that all is well t-minus three minutes 28 seconds and counting the shuttle is now on internal power however the fuel cells are still receiving their fuels from the ground support system through detailed service mass for one more minute t minus 3 minutes 15 seconds the profile checks of the aerosurfaces have been completed and checked you might see they were testing the movement of the engines in there see the movement of the spacecraft's engines just a final check to make sure they will move control [Music] t minus two minutes 55 seconds and counting the lock valve on the external tank has been closed and pressurization begun after the tank is pressurized the whole capability is limited [Music] two minutes 40 seconds we have cleared the caution in warning memory the gaseous oxygen bent arm is

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the gaseous oxygen bent arm is being retracted t minus 2 minutes 30 seconds and counting the fuel cell ground supply of oxygen and hydrogen has been terminated and the vehicle is on its onboard supply t minus two minutes 15 seconds the main engines have been gimbaled to their start position and the pressure on the liquid oxygen tank is at slight pressure coming up on the two-minute point t-minus two minutes and counting the liquid hydrogen vent valve has been closed and flight pressurization underwear t-minus one minute 50 seconds and counting [Applause] the gaseous oxygen vent arm is almost fully retracted t minus one minute 40 seconds and counting t-minus 1 minute 30 seconds 90 seconds away from launch of sts2 t minus one minute 15 seconds and counting the liquid hydrogen tank is at flight pressure [Music] coming up on the one minute point in our countdown everything going smoothly t-minus one minute and counting t minus 50 seconds the firing system for the ground suppression water is armed t minus 40 seconds development flight instrument recorders are on t minus 37 seconds we're about just a

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t minus 37 seconds we're about just a few seconds away from switching control of launch to the computer sequence we have control of the countdown now being conducted by the launch sequencers onboard the orbiter t minus 20 seconds and counting the srb hydraulic power units have started the srb nozzles have been moved to start position coming up on 10 t minus 10 9 we have go for main engine start we have main engine start minus 3 2 1 we have ignition we have [Applause] control confirms role maneuver started there's the running seconds looks good 25 seconds 30 seconds columbia now one nautical mile in altitude 35 second status check the mission controlled by flight director neil hutchinson given to go at 40 seconds columbia houston your go at 40. maximum aerodynamic pressure on the vehicle [Applause] mark one minute columbia now five nautical miles in altitude three nautical miles downrange velocity now reading 2300 feet per second one minute eight seconds pass through max q columbia still looking good throwing engines back to 100 percent [Applause] mark one minute 20 seconds columbia now nine nautical miles in altitude six nautical miles downrange velocity now reading

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reading 3 000 feet per second mark 1 minute 35 seconds columbia now 14 nautical miles in altitude 10 nautical miles down the range what can you see now you can expect an evap cnw one one minute 45 seconds coming up on negative seats where altitude's too high for just mark one minute 55 seconds columbia now 21 nautical miles in altitude 18 nautical miles downrange velocity now reading 5 000 feet per second standing by now for a solid rocket booster separation confirmation 205 roger copy pc lesson 50. there goes the solid rocket boosters confirmed two minutes 25 seconds onboard guidance is converging this program colombia is now steering for its precise window and space for main engine cutoff columbia now 35 nautical miles in altitude 40 nautical miles downrange the solid rocket boosters have fallen away the orbiter's riding on the back of his external fuel tank mark two minus 45 seconds columbia now has two engine landing capability at rotor naval air station spain two minutes 54 seconds status check in mission control given a goal for three minutes and you're looking good at three mark three minutes eight seconds columbia now 46 nautical miles in altitude 66 nautical miles downrange columbia's three main engines continue to run smoothly angle and truly really moving out now velocity now reading 6 700 feet per second

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next critical time is when the external fuel tank uh they try to separate it from the orbiter itself velocity now reading 7 000 feet per second returned status check and emission control by flight director neil hutchinson england truly given a goal to continue mark three minutes 55 seconds columbia now 58 nautical miles in altitude 112 nautical miles downrange velocity now reading 7 900 feet per second four minutes eight seconds standing by for a negative return and pressed ato call-ups control the flight now has been switched over to the johnson space center in houston and the voice you're now hearing from there is john mcleish control now in houston with that call up england truly now committed to space travel he can no longer turn around and return to the launch site four minutes 35 seconds columbia now 65. i'm your houston your president four minutes 44 seconds for the first time columbia has uh forward abort to orbit capability on two engines by throttling engines up to 107 percent five minutes colombian r68 nautical miles an altitude 189 nautical miles downrange velocity now reading 10 300 feet per second five minutes 14 seconds i'd call up by capcom brandenstein says that england truly now capable of abort to orbit on two engines without throttling up columbia's engines five minutes 25 seconds columbia now 68

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five minutes 25 seconds columbia now 68 nautical miles in altitude 228 nautical miles downrange just about three minutes from the time when the external fuel tank should drop away three minutes to go inside 40 seconds standing by for press tumiko columbia houston your president should colombia lose but one engine press on keep flying forward columbia's engines have enough uh energy to uh to achieve normal attitude your single engine rota and everything's looking good main engine cut off there is a point when the main engines of the orbiter were cut off uh when the fuel tank will be jettisoned columbia now 68 nautical miles in altitude 346 nautical miles downrange velocity now reading 14 900 feet per [Music] second mark 6 minus 50 seconds columbia now 67 nautical miles in altitude 397 nautical miles downrange columbia pitching over now diving to increase velocity decrease altitude giving columbia her most favorable attitude seven minutes five seconds standing by now for a single engine press to miko being main engine cut off we could faintly hear the voice of the crew saying quote this is really smooth 20 seconds our report says that england truly can achieve normal engine cut off targets even if

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normal engine cut off targets even if two engines go out mark seven minutes 30 seconds columbia now 64 nautical miles in altitude 511 nautical miles downrange velocity now reading 20 000 feet per second [Music] seven minutes 43 seconds geforce is building for england truly now coming up to three g's columbia now 63 nautical miles in altitude 562 nautical miles downrange [Music] seconds before main engine cutoff columbia now 63 nautical miles in altitude 645 nautical miles downrange velocity now reading 24 000 feet per [Music] second at liftoff with a space uh shuttle the first flight young's pulse was calm at 85 bob crippens went to 130 we'll have to wait and hear what this crew felt in the way of their pulse roger we copy columbia confirmed shutdown columbia now returned to space not yet returned orbit uh standing by now for external tank separation lobby houston you can ignore the imu bites an evasive maneuver moving below and beyond the external tank mission control industries the external tank has been dropped away the orbiter is on its own

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columbia houston your goal for nominal ohms one and for apu shutdown on time roger 9 minus 44 seconds our columbia now maneuvering homes one burn attitude using the two six thousand pound thrust engines holmes one will be posi grade moving columbia forward and higher on her flight path placing colombia in orbit when they talk about those olms burns those are the engine burns necessary to put the spacecraft into orbit this this burn will put us around 60 120 nautical miles about 45 minutes roger and the evap is shut down we'll need it cycled off and then back to the primary on the picture you see as of mission control in houston the uh spacecraft well out of sight headed for orbit but not yet into orbit they got the owned ignition of the first engine necessary to burn in order to put the spacecraft into orbit that's a critical test beyond us now you may have heard some references there to capcom that's astronaut dan brandenstein the capcom or capsule engines look good going over the hill configure loss we'll see at madrid a reference to the fact that the best uh the next communication point is in spain what you're seeing is animation roughly where the spacecraft is and what the astronauts themselves

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the astronauts themselves are into at this moment the only thing we heard out of the crew is this is really smooth dan i think i did hear him call out a couple master alarms they were getting some uh some imu bites which is a which means the imu was temporarily dropping out to causing a in-flight uh it's a built-in test equipment that's what it does but and they also seem to be having some problem with one of the evaporators but we'll have to wait and see after they sort this out but none of that sounds like serious trouble to you leo no it's not serious but they did have some some master alarms on the launch i heard him call one out let's listen to mission control for just a moment we have gopher main engine start we have space main engines now at any moment they're going for main engine start this is a recognition we have ignition of the solid rocket lift off of america's space shuttle and the space shuttle has cleared the tower uh what that is uh this is a replay of the launch itself both of the auxiliary engines that are necessary for orbit one of them has already started voting what you are seeing here nasa is replaying and hearing the launch itself and that's what confused everybody uh myself including myself especially i think it's important to know note that the imu bite tests also include internal temperature tests and etcetera and neil hutchinson said to disregard it could be just a very well for just one moment there when they said manage and start i thought they meant well the main of those auxiliary engines but now where we are right now this is a replay nasa's seeing a videotape replay of the launch itself which is a beautiful uh thing of wonder but where the astronauts

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thing of wonder but where the astronauts are at this moment they're headed for orbit but they're not yet into orbit they're in orbit now they just they're in a 60 by 120 nautical mile orbit all right they're in a 60 by 120 nautical mile orbit they've just reached orbit let's take our model of the orbiter itself they are at the moment flying if you will upside down or right side up leo upside down and forward upside down and forward nose pointing in this direction and they're now in their first orbit if they have an emergency and have to land their next available place to land is in spain no they can no longer make spain they're they they're committed to orbit no that's right they're they're in orbit and they could come down and and edwards or any one of the contingency landing sites they could pick their landing site now if they had trouble there's no indication of any trouble anywhere and in case uh you have joined us late and missed the launch itself we will of course be uh re-showing uh the launch as the evening as the morning goes along uh the astronauts uh every indication is that while they have a few uh minor problems uh in the cockpit some indication that uh this or that backup system may not be working perfectly everything has gone a picture perfect this morning in terms of the launch let's don't forget what's been accomplished here uh that after last week's scrub in a two-day delay that turned into a much longer delay the launch this morning was successful the astronauts are now in orbit they're making their first orbit of the earth uh let us hope that the whole trip turns out to be as picture-perfect as the first space shuttle back in the spring our cbs news coverage of the space shuttle columbia will continue in a [Music] [Applause] moment

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